Gentec-eo USA Case Study

The Challenge

Gentec Electro Optics (Gentec-eo) of Quebec is widely recognized as a global force in the field of laser management and control solutions. Formed in 1972 as a laser manufacturer, Gentec-eo built its reputation by repeatedly being first to market with robust, innovative new products.

Sid Levingston, Gentec-eo senior product development engineer, works out of the Lake Oswego, Oregon, facility and specializes in the design of pulse detectors—really, really fast ones. Precision instruments this powerful produce a wide range of complex PCB needs.

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- Sid Levingston

In 2009, when Mr. Levingston went to work on the Mach 6 Ultrafast Joulemeter—what would become the fastest pulsed laser energy meter in the world—he turned to his trusted partner Sunstone for help with his PCBs. "We were looking at eight-layer boards with 600 mhz processors," said Mr. Levingston. "I needed help from someone I could trust."

Superior Service Defined

Mr. Levingston originally began his work with Sunstone using its proprietary design software PCB123. At one point during the design process, he encountered a problem. "I know the drill when software stops. Call the help line and cross your fingers," said Mr. Levingston. "Sunstone detected my issue and reached out to me before I had a chance to contact customer service. Who does that?"

Less than five minutes after the occurrence, a representative from Sunstone was working with Mr. Levingston to resolve the issue permanently. That event set a precedent for excellence that continues to this day.

"I was always taught that good customer service means exceeding the customer expectations," said Mr. Levingston. "Sunstone has repeatedly met that standard since I began working with them in 2006."

Building a Lasting Competitive Edge

As Mr. Levingston got to work on the Mach 6, the PCB designs became increasingly complex. “Sunstone worked closely with me to ensure I’d designed my boards for performance and manufacturability,” said Mr. Levingston.

To better handle the more complex boards, Levingston migrated away from PCB123—offered for free by Sunstone—to a design software that he admitted, “Cost some bucks.” Moving to new software did not affect his support from Sunstone. Mr. Levingston still relied on Sunstone for help with design rules checks. A technical support specialist from Sunstone spent hours on the phone with Mr. Levingston to make sure his PCB design was ready for prototype.

“Sunstone helped us cost-effectively get to market faster than our competitors.”

“When we got the board back, it worked,” said Mr. Levingston. “Sunstone helped us cost-effectively get to market faster than our competitors.”

Still the Fastest

The Mach 6 remains the world’s fastest pulsed laser energy meter to this day, and it is just one of many leading-edge Gentec-eo products using Sunstone PCBs. The world’s most sensitive radiometers, used by the US government’s National Institute of Standards and Technology, also contain PCBs from Sunstone.

“Our instruments are in medical devices, missile tracking systems, clear air turbulence monitors, manufacturing applications, and a multitude of advanced military systems. All of these products use Sunstone PCBs,” said Mr. Levingston.

Consistent Quality Stands the Test of Time

Reliable, effective customer service built the foundation for the partnership between Gentec-eo and Sunstone. Quality PCBs sustain it. “We buy a lot of boards from Sunstone,” said Mr. Levingston. “We have placed three hundred orders since August of 2006.”

In that time span, Sunstone achieved a perfect record for PCB quality. Mr. Levingston said, “We’ve never had a board come in with a defect.”

Lasers are Everywhere

Mr. Levingston designs instruments to measure characteristics of laser beams. Though these sound like niche products with limited application outside of the aerospace or high-tech manufacturing industries, they're not.

"People ask me all the time where our products are used," said Mr. Levingston. "Where aren't they used? That is a better question."

Gentec-eo instruments are quite literally everywhere. At the airport, Gentec-eo products scan commercial airliners for bad welds or fuselage cracks on the tarmac and perform body scans for TSA inside the terminal. Manufacturers of cars, high-definition televisions, and medical devices also rely on Gentec-eo measuring systems.

"The PCBs in these devices keep getting smaller even as I need them to do more and more," said Mr. Levingston. "Without Sunstone, I don't know if we could cost-effectively produce the boards we need fast enough to maintain production schedules."

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Location Matters

With Gentec-eo's headquarters and primary production facility thousands of miles away in Quebec, Sunstone better serves the operational needs of the Lake Oswego facility. Instrument production does not wait for boards to come cross-country from Canada, and budgets are not strained by the cost of expedited long-distance shipping.

"I'll tell my colleagues in Canada that I can get a four-layer PCB on my desk by the end of the week for just $300," said Mr. Levingston. "They say, well, why would we not do that?"

In for the Long Haul

Mr. Levingston continues to work exclusively with Sunstone because the partnership helps keep Gentec-eo ahead of its competitors. Mr. Levingston considers Sunstone to essentially be an extension of the company, one that provides expert, responsive customer support and the ability to cost-effectively prototype both simple and complex PCBs.

Sunstone offers Mr. Levingston a domestic, long-term PCB manufacturing partner he can trust, always.

"We never think of going any place else."